Work Orde Wednesday, Septe					Page 1						
Revision ID:	D206-667-2 Crosstube As	47TRN sembly, Mid Aft		Accept	*N900	0401	೧ ೧*	Setup	Start Stop	*N.9	S1* S2*
Start Date: Required Date: Reference:	9/12/2012 9/24/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item 1 Customer:	ID:				,	
Approvals:	Process Pla	an:	Date:	Tooling: SPC (Y/N):		ate:ate:		Run	Start Stop	*NF	₹1* ₹2*
Sequence ID/ Work Center ID	31	Operation Description	<u> </u>	Set Up/ St Run Hours	Tool ID	Tool # Pl	an Accep	ot Rej Qty		•,	Insp. Stamp
Draw Nbr	Rev	vision Nbr									
D206-667-247	Α	3 ,		4							
100 *100* Mori Seiki		MORI SEIKI CNC LAT	HE LARGE	0.00				Ø			
Mori Seiki CNC Lath	he Large	1-Fill tube 2-Turn first	side as per Folio FB030 n transition lines smooth.	OTxxxx on both ends as per	Folio FB030		***				27/29/18
*110 * *110*		QC1- Inspect dimension	ns to dimension sheet	0.00			· · · · · · · · · · · · · · · · · · ·	_	<u></u>		
QC Quality Control		Мето	· <	T PTO							9797/1

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NCR:	Yes // No				WORK ORDER NON-C	ONFOR	MANCE / UPE	DATE	DQA:	Date:	12/10/22
\									QA Closed:	C (Date:	1/
Work Orde	er:	92r	19		DISPOSITION		٠.	AGAINST DE	PARTMENT/	PROCESS	
	vo. <u>)206</u>	-667 <u>-</u> -194	245	TRN	Rework Scrap Use-as-is Work Order Update	Theri	Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite	Prod	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	Initial	Acti	ion	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier	12/9/14	100	(Cuff	is under tolerance. 2.490" -> 2.478"	12/9/19	Acceptable		12 12 12/9/19	7 loke	12/colis
Fraining											
Jnapproved		1						-	1		
l and:						AULT CATE	GURY				
Landi	ng Gear Bending				General Bend	Grain			Ovalized		Pressure/Forced

	Centre Not Concentric to O/S		BOM/Route		Hardware	<u>ا</u> نا	Over/Under tolerance Temperature/Cure
	Cracks		Broken/Damaged		Inspection Incomplete		Part Incorrect Weld
	Crushed/Crimped.		Burrs		Instructions Incomplete/Unclear	\Box	Part Lost/Missing Wrong Stock Pulled
/	Cuffs		Contamination		Maintenance		Part Moved
	Heat Treat	L	Countersink		Mislabeled		Positioned Wrong
,	Inspection Strip in Tube		Cut Too Short		Misread		Power Loss/Surge 🔨 Other
	Ripples in Bend		Drill Holes	L	Offset		outlity of motical
	Torque Waves in Extrusion		Drawing		Out of Calibration		
	Turning Sequence		Finish		Out of Sequence		
	Wave/Twist in Tube		Folio		Outside Dimensions		

0.00

Memo

140

Quality Control

QC

NCR:	Yes	/ No				WORK ORDER NON-	-CO	NFORM	MANCE / UP[DATE			
											QA Closed:	Date:	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT		_
Part I						Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	-	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root					Descr	ription of work order update		Initial	Act	ion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	CI	hief Eng	Descr	iption	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved						•	FALL	LT CATEC	GORY				
Landi	ng G	iear				General							
		Bending Centre No Cracks Crushed/G Cuffs Heat Trea Inspection Ripples in	Crimped. t n Strip in		D/S	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes			on Incomplete ions Incomplete/U nance led	Inclear	Ovalized Over/Under Part Incorred Part Lost/Mit Part Moved Positioned W Power Loss/S	ssing /rong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	[Torque W	aves in E	xtrusior	1 I	Drawing	1	Out of C	Calibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

89879

Page 3

Wednesday, September 12, 2012 9:50:56 AM D206-667-247TRN Accept Item ID: *N900040100* Setup Start **Revision ID:** Crosstube Assembly, Mid Aft Item Name: **Start Date:** 9/12/2012 Start Oty: 1.00 **Cust Item ID: Required Date: 9/24/2012 Req'd Qty:** 1.00 **Customer:** Reference: Run **Process Plan:** Date: _____ Tooling: Date: Approvals: Stop Date: SPC (Y/N): QC: Date: Sequence ID/ Reject Reject Operation Set Up/ Tool ID Tool # Plan Accept Insp. Work Center ID Description . Code Qty Oty Number Stamp **Run Hours** 150 0.00 Rm VZ-10-2 *150* HandFXtube 0.00 Memo Hand Finishing Crosstubes 1- PRESSURE WASH X-TUBE INSIDE AND OUT 2- ACID ETCH X-TUBE INSIDE AND OUT. USE RED SCOTCH BRITE QC5- Inspect part completeness to step on W/O 0.00 160 *160* QC 0.00 Memo **Quality Control** 0.00 170 Packaging *170* 0.00 Packaging Memo Packaging Identify and stock in kanban rack Location: 4

								DQA:	Date:	1
NCR: Yes	s / No			WORK ORDER NON	-CONFOR	MANCE / UF	PDATE	QA Closed:	Date:	•
Work Order:				DISPOSITION			AGAINST DE	PARTMENT,	/PROCESS	
Part No. NCR No.				Rework Scrap Use-as-is Work Order Update	Ther	Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Description of work order update	Initial	A	ction	Sign &		
Cause	Date	Step	Qty	or Non-conformance	Chief Eng	Des	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training				•						

Crushed/Crimped. Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled Cuffs Maintenance Part Moved Contamination Heat Treat Countersink Mislabeled Positioned Wrong Inspection Strip in Tube Other Power Loss/Surge Cut Too Short Misread Ripples in Bend Drill Holes Offset **Torque Waves in Extrusion** Drawing Out of Calibration Turning Sequence Finish Out of Sequence Wave/Twist in Tube Folio **Outside Dimensions**

FAULT CATEGORY

Grain

Hardware

Inspection Incomplete

Ovalized

Part Incorrect

Over/Under tolerance

Pressure/Forced

Weld

Temperature/Cure

General

Bend

BOM/Route

Broken/Damaged

Unapproved

Landing Gear

Bending

Cracks

Centre Not Concentric to O/S

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

0.00

0.00

QC21- Final Inspection - Work Order Release

Memo

180

QC

180

Quality Control

MP 12

											DQA:	Date:	<u> </u>
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UP	DATE	•		
											QA Closed:	Date:	
Work Ord	or.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIG	CI.					Rework	7	İ	Skid-tube	Crosstube	1	Water Jet	Engineering
Part I	No.					Scrap	1	1	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is	1	1	noforming	Finishing	4	re/Packaging	Other
NCR I	No.					Work Order Update	1		Large Fab	Composite	1	Supplier	
								<u> </u>			_		
Root					1	ption of work order update	1	Initial	Act	tion	Sign &		
Cause	,	Date	Step	Qty	(or Non-conformance	Cł	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data													
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Operator										•			
Material							ł						
Setup	Ш												
Other	Щ				}								
Process													
Supplier					t.								
Training			·				1						
Unapproved													<u> </u>
		· · · · · · · · · · · · · · · · · · ·					AUI	LT CATE	GORY				
Landi	_					General		7		· ·	1	_	7
	-	Bending				Bend	\vdash	Grain			Ovalized		Pressure/Forced
	-	Centre No	ot Concer	ntric to	o/s	BOM/Route	<u> </u>	Hardwa			Over/Under	·	Temperature/Cure
	\vdash	Cracks				Broken/Damaged	<u> </u>	- i	on Incomplete	–	Part Incorred	 	Weld
	_	Crushed/0	Crimped.		<u> </u>	Burrs	\vdash	-}	ions Incomplete/I	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	\vdash	Cuffs			<u> </u>	Contamination	\vdash	Mainte			Part Moved		
		Heat Trea			<u> </u>	Countersink	<u> </u>	Mislabe		<u> </u>	Positioned V		٦
	_	Inspection	•	Tube		Cut Too Short	<u>_</u>	Misreac			Power Loss/	Surge .	Other
	ŀ	Ripples in	Bend			Drill Holes	1	Offset					

Out of Calibration Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Wednesday, September 12, 2012 9:51:00 AM

Work Order ID: 89879

89879

Parent Item:

D206-667-247TRN

Crosstube Assembly, Mid Aft Parent Item Name:

D206-667-247TRN

Start Date: 9/12/2012

Required Date: 9/24/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP rev:A 11.01.06 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6004-115		Manufactured	No			100	Each	68.0000	1	1			
D6004 4	15								**				

1)6004-115

Crosstube Material

Location	Loc Oty	Loc Code			
LG	68				
3 <u>468</u> 5	1		· · · · · · · · · · · · · · · · · · ·		(.) . 1
69793>	30		L	engn.l	12/09/18
75636	37			, , ,	1-1 1/10

NCR:	Yes	/	No

										•	DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-O	100	VFORM	MANCE / UPI	DATE 🖁 🚜			
											QA Closed:	Date:	
Vork Ord	or.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
voik Oid	CI.					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part	Vo.					Scrap			Machining Machining	Small Fab	Prod	d. Eng. Coor.	Quality
						Use-as-is	1		noforming	Finishing	4	e/Packaging	Other
NCR	۷o.					Work Order Update			Large Fab	Composite		Supplier	
		, ,											T
Root						otion of work order update	1	nitial		ion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
c/Data	L						:						
uip/Tooling	<u> </u>						į						
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aterial	_						ł						
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pplier aining				÷									
approved								-					
approved		<u>L </u>				F	AUL	T CATE	GORY				
Landi	ng (Gear				General							
		Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	t Concen	tric to (o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorrec	t	Weld
		Crushed/C	rimped,			Burrs		Instruct	ions Incomplete/L	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Treat	:			Countersink		Mislabe	led		Positioned W	/rong	,
j		Inspection	Strip in	Tube		Cut Too Short		Misread			Power Loss/S	Surge	Other
		Ripples in I	Bend			Drill Holes		Offset				-	
		Torque Wa	aves in E	xtrusior	١	Drawing		Out of C	alibration				
		Turning Se	quence			Finish		Out of S	equence		****		
		Wave/Twis	st in Tub	e		Folio		Outside	Dimensions				

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DART AEROSPACE LTD	Work Order:	89879
Description: Crosstube Assembly, Mid Aft	Part Number:	D206-667-247TRN
Inspection Dwg: D206-667-247 Rev: A		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	spection Sheet wing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
	2.490	+0.005/-0.000	2,493	<i>/-/</i>		vern	CM-08
	2.025	+0.005/-0.000	2.627	(1	
	2.079	+0.005/-0.000	2-084				
	2.145	+0.005/-0.000	2.149				
	2.209	+0.005/-0.000	2213				
	2.287	+0.005/-0.000	2.292				
4	2.363	+0.005/-0.000	2-368			V	
SIDE			_			:	
ङ	0.200	+/-0.010	,200			vern	COVE #08
	R0.063	+/-0.010	.063	.(R6	
	R2.00	+/-0.010	2.00			11	
	R0.063	+/-0.010	-663			11	200
	4.438	+/-0.010	4.438			vern.	(No-06
	2.490	+0.005/-0.000	2.490-	2.483		vern	CNLOS
	2.025	+0.005/-0.000	2.029	-			
	2.079	+0.005/-0.000	2.083				
	2.145	+0.005/-0.000	2.149				
	2.209	+0.005/-0.000	2.213	-			
	2.287	+0.005/-0.000	2.291				
6	2.363	+0.005/-0.000	2.366	_		U	
SIDE							
တ	0.200	+/-0.010	200			vern	CWC-68
	R0.063	+/-0.010	.063			RG.	
	R2.00	+/-0.010	2.00	. ((1	
	R0.063	+/-0.010	.063				
	4.438	+/-0.010	41.438			V2Y/\	CNC-68
	`					•	
L	99.76	+/-0.020	79.75			tape	16-22

NCR:	NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
									•		QA Closed:	Date:	
Work Orde	er:					DISPOSITION			AGAIN	ST DE	PARTMENT	/PROCESS	
Part No						Rework Skid-tube Crosstube Scrap Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite			ab ng	Pro Rec/Stor	Engineering Quality Other		
Root					Descri	ption of work order update	1	nitial	Action		Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved				,	,	· ·							
· · · · · · · · · · · · · · · · · · ·						F	AUL'	T CATE	GORY				
Landir	ng G	ìear			. ,	General					_		
·		Bending Centre Not Concentric to O/S Cracks Crushed/Crimped				Bend BOM/Route Broken/Damaged Burrs	\blacksquare				Ovalized Over/Under Part Incorred Part Lost/Mi	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
						Contamination	ш	Mainte		_	Part Moved		
	_	Heat Treat		Tubo		Countersink Cut Too Short	Н	Mislabe		-	Positioned V Power Loss/	_	Other
	Inspection Strip in Tube Ripples in Bend					Drill Holes	MisreadOffset			L	Jeomei ross/	onige	Jouren

Out of Calibration

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

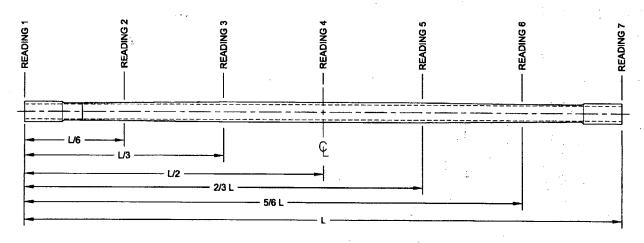
Finish

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89879

DART AEROSPACE LTD	Work Order:	8076
Description: Crosstube Assembly, Mid Aft	Part Number:	D206-667-247TRN
Inspection Dwg: D206-667-247 Rev: A		Page 2 of 2

WALL THICKNESS MEASUREMENT



	WALL	THICKNESS !	MEASUREMEN	NT (IN)	Deviation	-
Location	w1	w2	w3	w4	Δw (max-min)	TOLERANCE
READING 1 L= 0"	.3.43	.354	-363	.347	.020	
READING 2	148	-168	.168	-144	×025	
READING 3	, 727	. 248	.252	. 23.7	-025	
READING 4	394	. 355	. 362	. 3,56	.018	0.045"
READING 5	, 232	-236	-251	. 245	.019	
READING 6 L= 1(.145	. 158	165	-155	.020	
READING 7	35/07	.356	-357	.337	-619	

Calibration Result

Actual Block Thickness: 100 - 500

Sitescan 250 Measured Thickness: 100-.501

Measured by: Angm	Audited by:	Preliminary Approval:
Date: 12/09/18	Date: 12-9-26	Date:

Rev	Date	Change	Revised by	Approved
Α	11.06.21	New Issue	KJ	
В	12.02.02	Dimension 4.438 was 4.500	KJ . 1	
С	12.06.01	Wall thickness form added	KJ OM	137
			· · · · · · · · · · · · · · · · · · ·	

NCR:	Yes	/ No				WORK ORDER NON-	CONFOR	MANCE / UP	PDATE	•		
										QA Closed:	Date:	
Work Ord	er:					DISPOSITION			/PROCESS			
Part I	No.					Rework Scrap Use-as-is Work Order Update	4 1	Skid-tube Machining moforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update	Initial	Ad	ction	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												
							AULT CATE	GORY				· · · · · · · · · · · · · · · · · · ·
Landi	Landing Gear Bending Centre Not Concentric to O/S			General Bend BOM/Route	Grain Hardware			Ovalized Over/Under		Pressure/Forced Temperature/Cure		
Į.	Cracks				Broken/Damaged Inspection Incomplete				Part Incorred	rt l	Weld	

Instructions Incomplete/Unclear

Maintenance

Out of Calibration
Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

DQA:

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Part Moved

Wrong Stock Pulled

Other

Date:

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

Cuffs

Heat Treat

Burrs

Contamination Countersink

Cut Too Short

Drill Holes

Drawing

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Item	Qty -247	Part Number	Description
1	x	D206-667-247	CROSSTUBE ASSEMBLY (206L MID AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4 .	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115 FINISHED LENGTH = 99.76±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2

- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
 UNITS: INCHES UNLESS OTHERWISE NOTED.
 BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
 IDENTIFICATION: SCRIBE DART PART NUMBER "D208-667-247" AND BATCH NUMBER ON INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- WEIGHT: 21.1 lbs (-607 = 17.7 lbs)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
- TRANSITION SHOULD BE SMOOTH.

 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
 12) INSTALL D2892-1 SUPPORT USING 0.03° TO 0.06° THICK LAYER OF MAGNOBOND 6398 PER QSI
- INSTALL D2892-1 SOPPORT USING 0.03* 100 till ELAYER OF MAGNOBOND 8389 PER Q 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
 INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
 EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
- OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

DEO ATTACHED

600 # (1-615 U.07.28

UNDER REVIEW

В

Α	NEW IS	SSUE		CP	10.12.23					
REV.	Ī -		DESCRIPTION	BY	DATE					
DESIGN		9	DART AEROSPACE LTD							
DRAWN		92	HAWKESBURY, ONTARIO, CANADA							
CHECKED			DRAWING NO.		REV. A					
MFG. AF	PR.	0-	D206-667-247		SHEET 1.OF 4					
APPRO	/ED	who	TITLE	•	SCALE					
DE APP	R.		CROSSTUBE ASS'Y (206L MID AFT) NT							
DATE	10.1	2.23	COPYRIGHT © 2010 BY DAR THIS BOQUARDY IN PROVINCE OF THE BOOK OF THE PROVINCE OF THE BOOK	LIED ON THE DORNE	S CONDITION THAT IT IS					

												DQA:	Dat	te:	
NCR:	Yes /	/ No				WORK ORDER NON-	CO	NFORM	ANCE / UP	DATE		0.4.61	D-4	·	
											_	QA Closed:	Dat	te:	
Work Ord	er.					DISPOSITION				AGAINST D)Ef	PARTMENT	/PROCESS		
Part I						Rework Skid-tube Crosstube Scrap Machining Small Fab Use-as-is Thermoforming Finishing			-	Water Jet Prod. Eng. Coor.			Engineering Quality Other		
NCR I	No	<u>-</u>				Work Order Update	}		Large Fab	Composite		Rec/Stor	e/Packaging Supplier		Other
Root					Descri	ption of work order update		Initial	Act	tion	٦	Sign &			
Cause		Date	Step	Qty		or Non-conformance	Cł	nief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data															
Equip/Tooling															
Operator											ł				
Material	Ш						1								
Setup															
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Unapproved															
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Landi	ng Gea	ar				General		_		· "					_
	Вє	ending				Bend		Grain				Ovalized			Pressure/Forced
	C€	entre No	t Concer	tric to C)/S	BOM/Route		Hardwai	re			Over/Under	tolerance		Temperature/Cure
	Cracks					Broken/Damaged		Inspection	on Incomplete			Part Incorred	:t	L	Weld
	Crushed/Crimped.					Burrs		Instructi	ons incomplete/l	Jnclear		Part Lost/Mi	ssing		Wrong Stock Pulled
ĺ	Cu	ıffs				Contamination		Mainte	nance			Part Moved	•		
	Не	eat Treat	:			Countersink		Mislabel	ed	. [٦	Positioned W	/rong		_
	Ins	spection	Strip in	Tube		Cut Too Short	Г	Misread	•	Γ	٦	Power Loss/:	Surge		Other
	Ripples in Bend					Drill Holes		Offset			_	•			

Out of Calibration

Outside Dimensions

Out of Sequence

Turning Sequence

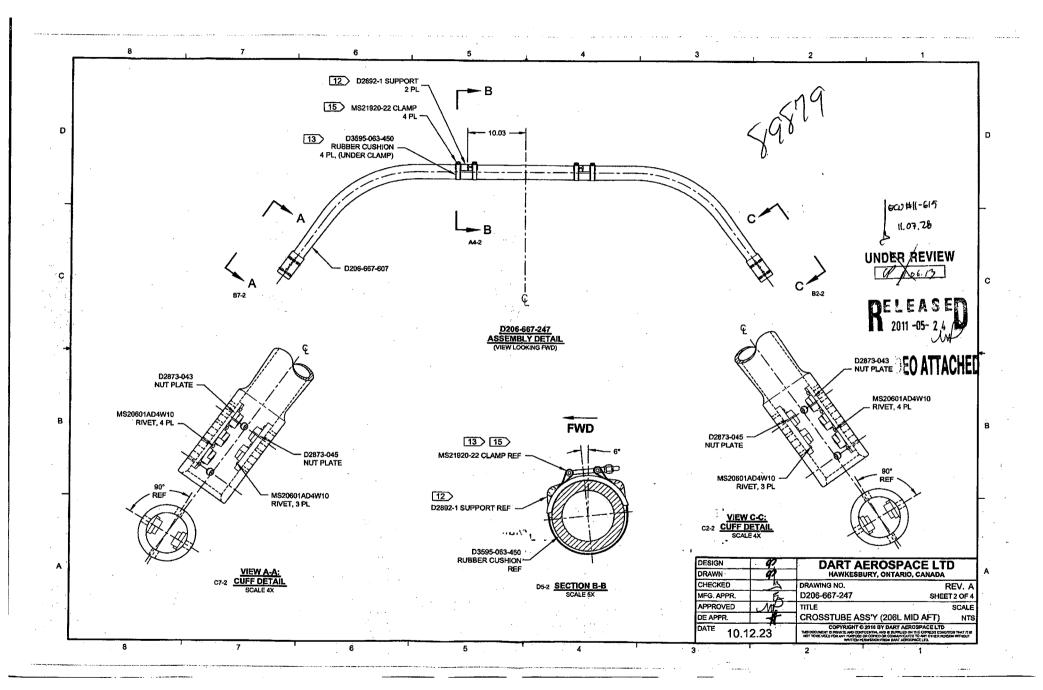
Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

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Equip/Tooling Operator Operato											DQA:	Date:	
DISPOSITION Rework Skid-tube Crosstube Water Jet Engineering Disposition Sign & Prod. Eng. Coor Quality Description of work order update Chief Eng Description Description of work order update Chief Eng Description Date Verification QC Inspector Dec/Data Gaupi/Tooling Gaupi/To	NCR:	Yes / I	No			WORK ORDER NON-	COI	NFORM	MANCE / UPDATE		04.61	Data	
Nork Order:								T			QA Closed:	Date:	
Root Cause Date Step Qty Description of work order update Equipy Tooling Corporator Material Step Question of Water Idea						DISPOSITION			AGAINS	PARTMENT,	/PROCESS		
Part No.	Work Ord	er:				Bayyark [Skid tubo Crosstube	\Box]	Water let] Engineering	
Use-as-is Work Order Update Thermoforming Large Fab Composite Supplier Other	Dart N	No.					-	í	}	_	Pro	 	
Root Cause Date Step Qty Or Non-conformance Chief Eng Description Date Verification QC Inspector Doc/Data Equip/Tooling Operator Material Setup Other Date Step Qty Or Non-conformance Chief Eng Description Date Verification QC Inspector Material Setup Other Other Training Unapproved Unapproved Chief Eng Description Date Step Other	Parti	NO				·	-	•	~ 		ł		-
Root Cause Date Step Qty Or Non-conformance Chief Eng Description Date Verification QC Inspector Doc/Data Equip/Tooling Operator Operator Material Setup Other I raining Unapproved Unapproved Chief Eng Description Date Verification Operator FAULT CATEGORY FAULT CATEGORY FAULT CATEGORY Farin Not Concentric to O/S Operator Over/Under tolerance Temperature/Cure Crushed/Crimped. Bending Cearte Not Concentric to O/S Above Hardware Over/Under tolerance Temperature/Cure Over/Under tolerance Temperature/Cure Over/Under tolerance Weld Weld Crushed/Crimped. Broken/Damaged Inspection Incomplete Part Lost/Missing Wrong Stock Pulled	NCR N	No.] <u></u>	1		→	~—	1100,310.		1
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Doc/Data Set S	Root				Descri	ption of work order update		Initial	Action		Sign &		
Equip/Tooling Operator Operato	Cause	Da	te Step	Qty		or Non-conformance	Cr	nief Eng	Description		Date	Verification	QC Inspector
Operator Material Setup Other	Doc/Data												İ
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Process Supplier Training Unapproved Unappro	Setup												
Supplier Training Unapproved Unap	Other	Ц											
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Landing Gear General General Ovalized Over/Under tolerance Temperature/Cure Oracks Grown General Over/Under tolerance Temperature/Cure Oracks Grain Over/Under tolerance Over/Un	Training		ľ										
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Bending Bend Grain Ovalized Pressure/Forced Centre Not Concentric to O/S BOM/Route Hardware Over/Under tolerance Temperature/Cure Cracks Broken/Damaged Inspection Incomplete Part Incorrect Weld Crushed/Crimped. Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Stock Pulled				_			AUI	LT CATE	GORY				
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		⊢				1	-	- '	*	\vdash	-†	<u> </u>	
		Cuffs	ea/Crimpea	l.	 	Contamination	-	-{	•	-	Part Moved	Tanoug stock i dued	
Heat Treat Countersink Mislabeled Positioned Wrong			Treat			- 	-	- ∤	,				

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

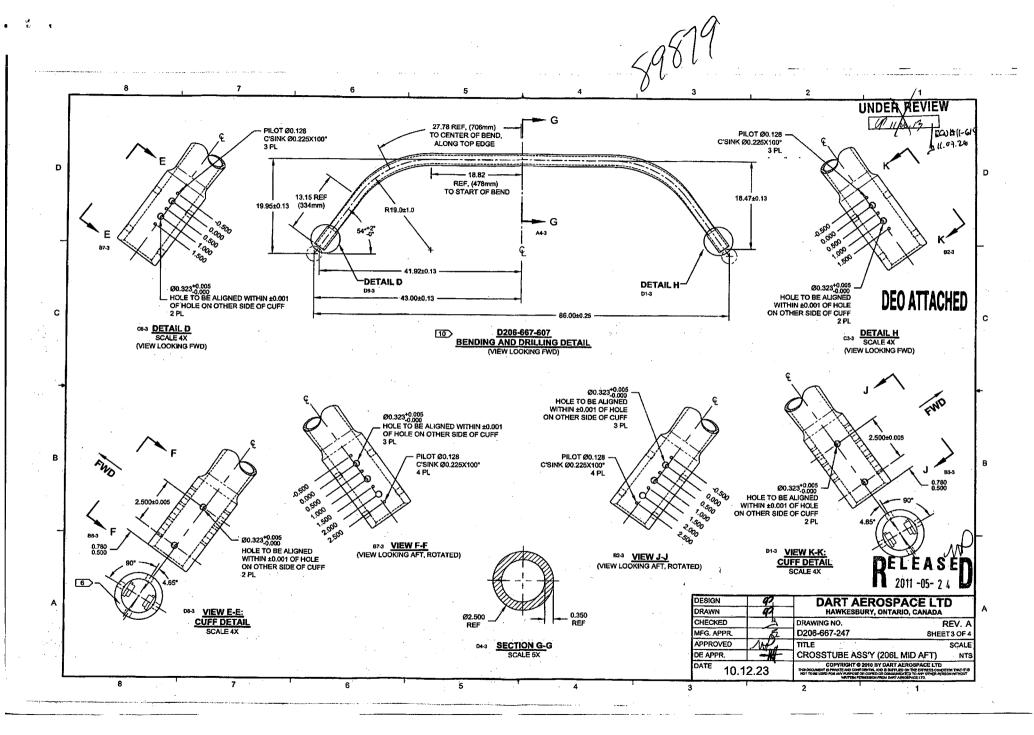
Cut Too Short

Drill Holes

Drawing

Finish

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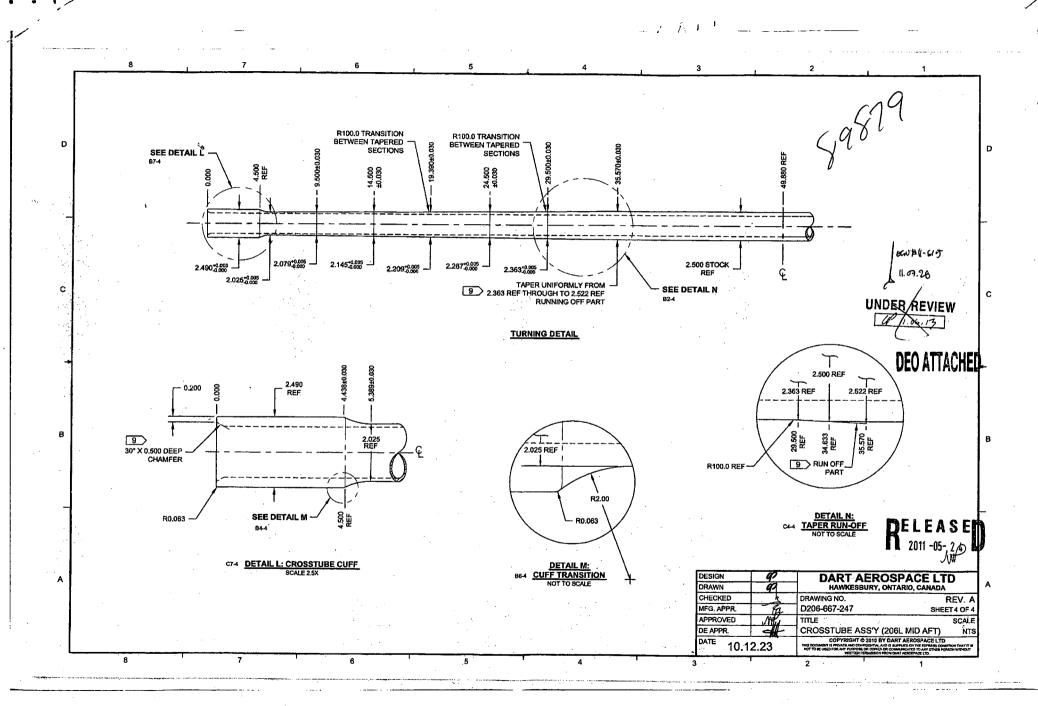


									DQA:	Date:)	
NCR: Yes	/ No				WORK ORDER NON-C	CONFOR	MANCE / UF	PDATE	QA Closed:	Date:		
Work Order:					DISPOSITION AGAINST D				DEPARTMENT/PROCESS			
Part NoNCR No					Rework Scrap Use-as-is Work Order Update	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			Pro Rec/Sto	Engineering Quality Other		
Root				Descri	ption of work order update	Initial	Ad	ction	Sign &			
Cause	Date	Step	Qty	,	or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspecto	
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training												

	FAULT CATEGORY										
Landin	g Gear	General				_					
	Bending	Bend		Grain		Ovalized	Pressure/Forced				
	Centre Not Concentric to O/S	BOM/Route		Hardware		Over/Under tolerance	Temperature/Cure				
	Cracks	Broken/Damaged		Inspection Incomplete		Part Incorrect	Weld				
	Crushed/Crimped_	Burrs		Instructions Incomplete/Unclear		Part Lost/Missing	Wrong Stock Pulled				
	Cuffs	Contamination		Maintenance		Part Moved					
	Heat Treat	Countersink		Mislabeled		Positioned Wrong					
	Inspection Strip in Tube	Cut Too Short		Misread		Power Loss/Surge	Other				
	Ripples in Bend	Drill Holes		Offset							
. [Torque Waves in Extrusion	Drawing		Out of Calibration							
Ĺ	Turning Sequence	Finish		Out of Sequence							
Γ	Wave/Twist in Tube	Folio	Ţ	Outside Dimensions							

Unapproved

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											DQA:	Dat	e: _	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORM	MANCE / UPDATE		QA Closed:	Dat	· · ·	
<u> </u>						<u> </u>		<u> </u>			QA Closed:	Dat	е.	
Work Ord	or.					DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Work order.				Rework			Skid-tube Cro	sstube	☐ Water Jet ☐			Engineering		
Part	No.					Scrap Machining			}	all Fab	Pro	d. Eng. Coor.		Quality
	-					Use-as-is	1			nishing	Rec/Sto	re/Packaging	7	Other
NCR	No.					Work Order Update]		Large Fab Com	posite]	Supplier		
				_								<u>,</u>		
Root					l	ption of work order update		Initial	Action		Sign &	_		
Cause	,	Date	Step	Qty	(or Non-conformance	Cr	nief Eng	Description		Date	Verification	1	QC Inspector
Doc/Data	Ш													
Equip/Tooling	Ш												İ	
Operator	Ц													
Material	Ш												Ì	
Setup	Ш						1							
Other	Ш													
Process							1							
Supplier														
Training		.).												
Unapproved														
						F	AUL	T CATE	GORY					
Landi	ng G	ear				General		_			_	_		
		Bending				Bend		Grain			Ovalized		P	ressure/Forced
		Centre No	t Concer	ntric to (o/s	BOM/Route		Hardware			Over/Under	tolerance	T	emperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct [v	Veld
		Crushed/0	Crimped.			Burrs	Г	Instruct	ions Incomplete/Unclear		Part Lost/M	issing	V	Vrong Stock Pulled
	П	Cuffs				Contamination		Mainte	nance		Part Moved	_		

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Heat Treat

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

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DRAWING NO	O. TITLE	REV. A	DART AEROSPACE LT	D D.E.O. NO.	SHEET NO.	SCALE
D206-667-	247 CROSS	TUBE ASS'Y (206L MID AFT)	ENGINEERING ORDER	D206-667-247-A-1	SHEET 1 OF 1	NTS
DRAWN	P	CHECKED AS	MFG. APPR.	APPROVED (NA)	DE APPR.	
DATE	11.07.15	DATE 11.07.70	DATE 11:07-21	DATE 1/07/21	DATE 11.07-21	

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -247	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15. SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2892-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

WAS:

- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

49819



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											DQA:	Date:	. b . • • • • • • • • • • • • • • • • • • •	
NCR:	Yes	s / No				WORK ORDER NON-	COI	NFOR	MANCE / UPDATE		•		₹+,	
											QA Closed:	Date:		
Work Order:						DISPOSITION	AGAINST DEPARTMENT/PROCESS							
WOIR OIC	CI.					Rework	7		Skid-tube Cros	sstube		Water Jet	Engineering	
Part	No.					Scrap	1	1	├	all Fab	Prod	d. Eng. Coor.	Quality	
			· · · · · · ·			Use-as-is	1	Thern	noforming Fin	nishing	Rec/Stor	e/Packaging	Other	
NCR	No.					Work Order Update]		Large Fab Com	posite		Supplier		
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Root		_	_	_		ription of work order update		Initial	Action		Sign &	ئى جى ب	061	
Cause	1	Date	Step	Qty		or Non-conformance	Cr	nief Eng	Description		Date	Verification	QC Inspector	
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Landi	ng (Gear				General				_	•		_	
	_	Bending				Bend		Grain		<u> </u>	Ovalized		Pressure/Forced	
		Centre Not Concentric to O/S Cracks Crushed/Crimped.				BOM/Route	<u>_</u>	Hardwa		<u> </u>	Over/Under	 	Temperature/Cure	
	_					Broken/Damaged		Inspection Incomplete			Part Incorred		Weld	
	L					Burrs		4	ions Incomplete/Unclear		Part Lost/Mi	ssing	Wrong Stock Pulled	
	<u> </u>	Cuffs				=	Contamination		Maintenance			Part Moved		
	_	Heat Treat				Countersink		Mislabe		<u> </u>	Positioned Wrong			
	_	Inspection Strip in Tube				Cut Too Short	<u></u>	Misread			Power Loss/	surge A	Other	
	Ripples in Bend Torque Waves in Extrusion					Drill Holes	\vdash	Offset	Salibanaki an				1.174	
	<u> </u>			xtrusioi	¹	Drawing		4	Calibration					
	-	Turning Se Wave/Twi			-	Finish Folio	-	i	equence Dimensions					
		wave/IWI	sem rub	, C	i	FOIIO	1	Outside Dimensions						

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